

ENHANCED LOW PASS FILTER

ABSTRACT OF THE DISCLOSURE

5 An ADSL POTS splitter includes an enhanced low pass filter. The enhanced
 low pass filter includes a first filter capacitor, a first non-isolated inductor, a second
 non-isolated inductor, a first isolated inductor and a common mode choke. The
 second non-isolated inductor is connected to the first non-isolated inductor. A first
 winding of the second non-isolated inductor is connected in series with a first winding
 of the first non-isolated inductor. A second winding of the second non-isolated
 10 inductor connected in series with a second winding of the first non-isolated inductor.
 The first isolated inductor is connected to the first non-isolated inductor with a first
 winding of the first isolated inductor connected in series with the first winding of the
 first non-isolated inductor and to a first lead of the first filter capacitor. A second
 winding of the first isolated inductor connected in series with the second winding of
 the first non-isolated inductor and to a second lead of the first filter capacitor. The
 15 first non-isolated inductor has a respective DC saturation current and the isolated
 inductor has a respective DC saturation current. The DC saturation current of the first
 non-isolated inductor is substantially greater than the DC saturation current of the
 isolated inductor for achieving higher inductance in the isolated inductor. The
 common mode choke is connected between the first non-isolated inductor and the first
 20 filter capacitor. A first winding of the common mode choke connected in series with
 the first winding of the first non-isolated inductor and with the first winding of the
 first isolated inductor. A second winding of the common mode choke is connected in
 series with the second winding of the first non-isolated inductor and with the second
 winding of the first isolated inductor.